

REMARKS

Formal Matters

Claims 1-3, 5-30 and 38-41 are pending.

Claims 1-3, 5-20 and 38-41 were examined and rejected.

Claims 1, 5-7, 11-15 and 39-41 are amended. The amendments to the claims were made solely in the interest of expediting prosecution, and are not to be construed as an acquiescence to any objection or rejection of any claim. Support for the amendments is found in the claims as originally filed, and throughout the specification, in particular at the following exemplary locations: page 12, lines 14-15, page 15, lines 29-30 and page 3, lines 13-14. Accordingly, no new matter is added.

Claims 21-37 are canceled without prejudice to renewal, without intent to acquiesce to any rejection, and without intent to surrender any subject matter encompassed by the canceled claims. Applicants expressly reserve the right to pursue any canceled subject matter in one or more continuation and/or divisional applications.

Applicants respectfully request reconsideration of the application in view of the remarks made herein.

Rejection under U.S.C. § 102 – Adams

Claims 1, 5-9, 11-14 and 39-40 are rejected under U.S.C. § 102(b) as being anticipated by Adams (USPN 6,060,288). The Applicants respectfully traverse this rejection.

The claims have been amended to recite cDNA and synthetic polynucleotide molecules that are single stranded. According to the claim, each feature of the first set of features contains *single stranded* cDNAs of at least 400 nucleotides in length, and each feature of the second set of features contains synthetic *single stranded* polynucleotides of no more than 100 nucleotides in length.

As discussed in the response to the previous Office Action, Adams solely discloses a *double-stranded* polynucleotide of greater than 400 nucleotides in length and fails to disclose (nor, for that matter, provide any motivation to make) *single-stranded* polynucleotides that are at least 400 nucleotides in length. Accordingly, Adams fails to disclose an element of the claimed invention: a *single-stranded* polynucleotide that is at least 400 nucleotides in length.

Further, Adams fails to disclose or fairly suggest a method or composition that uses a *cDNA* molecule. Accordingly, even if Adams could be somehow construed as disclosing a

single stranded polynucleotide of at least 400 nucleotides in length, Adams still fails to anticipate the claimed invention for not disclosing an array containing a cDNA molecule.

In view of the foregoing, the Applicants respectfully submit that Adams fails to teach at least two elements of the claimed invention, and, accordingly, this rejection may be withdrawn.

Rejection under U.S.C. § 103 – Chenchik

Claims 1 and 6-9 are rejected under U.S.C. § 103(a) as unpatentable over Chenchik (USPN 6,087,102). The Applicants respectfully traverse this rejection.

The claims have been amended to recite both *cDNA* and *synthetic* polynucleotide molecules that are single stranded.

Chenchik discloses a method whereby fractions of an RNA sample that are separated by size are deposited, in order of size, on the surface of a solid support. At no point does Chenchik disclose, or fairly suggest, depositing a *cDNA* or a *synthetic polynucleotide* on the surface of a solid support.

As such, Chenchik fails to disclose or fairly suggest at least two elements of the claimed invention: a cDNA and a synthetic polynucleotide.

Since Chenchik fails to disclose at least two elements of the claimed invention, Chenchik cannot render the claimed invention obvious.

Accordingly, this rejection may be withdrawn.

Rejection under U.S.C. § 103 – Adams

Claims 2, 3, 10 and 15-21 are rejected under U.S.C. § 103(a) as being unpatentable over Adams (USPN 6,060,288). The Office asserts that Adams array, in combination with what is known to one of skill in the art about “experimental design”, renders the claimed invention obvious. The Applicants respectfully traverse this rejection.

As previously discussed, the claims have been amended to recite cDNA and synthetic polynucleotide molecules that are single stranded. According to the claim, each feature of the first set of features contains *single stranded* cDNAs of at least 400 nucleotides in length, and each feature of the second set of features contains *synthetic single stranded* polynucleotides of no more than 100 nucleotides in length.

Adams discloses a *double-stranded* polynucleotide of greater than 400 nucleotides in length and is deficient in failing to disclose or fairly suggest *single-stranded* polynucleotides

that are at least 400 nucleotides in length.

Further, Adams is deficient for failing to disclose or fairly suggest a method or composition that uses a *cDNA* molecule.

Accordingly, Adams is deficient in that it fails to disclose or fairly suggest at least two elements of the claimed invention. Since Adams' deficiencies cannot simply be met by what is known to one of skill in the art about "experimental design", the Applicants respectfully submit that Adams fails to render the rejected claims obvious.

Finally, the Applicants cannot see any particular reasoning for the Office's conclusory statement that "one of skill in the art would have been motivated to design the array having short (less than 100) to long (at least 400) polynucleotide ratio of at least 1:10 and 1:20 to thereby optimize experimental conditions and maximize experimental results". For example, which particular experimental designs would lead a skilled person to put such features on arrays in the recited ratios?

Accordingly, if this rejection is to be maintained, the Applicants respectfully request that the Office elaborate on the reasoning behind this conclusory statement.

In view of the foregoing discussion, the Applicants respectfully request that this rejection be withdrawn. If the rejection is to be maintained, the Applicants respectfully request that it is further elaborated.

Rejection under U.S.C. § 103(a) – Bao

Claims 1-3, 5-10, 14, 38 and 41 are rejected under U.S.C. § 103(a) as being unpatentable over Bao (USPN 6,251,601). The Office Asserts that that Bao's array renders the rejected claims obvious. The Applicants respectfully traverse this rejection.

The claims have been amended to recite an array containing cDNAs of at least 400 nucleotides in length and synthetic polynucleotide molecules that are no more than 100 nucleotides in length.

Bao provides methods and compositions for simultaneously measuring gene expression and genomic abnormalities. Accordingly, Bao's arrays contain both cDNA and genomic DNA target elements (see col. 10 lines 31-38, for example). Bao's cDNA targets detect gene expression, whereas Bao's genomic DNA targets detect genomic abnormalities and are usually 25,000 – 125,000 bp in size (see col. 10 lines 55-65). Bao therefore discloses an array comprising a cDNA molecule and a genomic DNA target (i.e., a very large piece of DNA that is larger than 25,000 bp).

At no point does Bao disclose, teach, or fairly suggest an array containing both a cDNA molecule of at least 400 nucleotides and a synthetic polynucleotide of no more than 100 nucleotides (this synthetic polynucleotide being very different in size to a genomic DNA target).

In fact, if Bao's array was modified to be an array meeting the requirement of the rejected claims, e.g., to become an array of cDNAs and oligonucleotides, such an array would be unsatisfactory for Bao's intended use, i.e., unsatisfactory for detecting genomic abnormalities. Accordingly, in view of the guidance set forth in the MPEP (MPEP § 2143.01: "If proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modifications."), Bao's teachings, alone, cannot render the rejected claims obvious.

Accordingly, Bao fails to disclose, teach, or fairly suggest the claimed subject matter. Further, since Bao's array would be rendered useless for investigating chromosomal abnormalities if it was modified to contain cDNAs and synthetic oligonucleotides, Bao cannot render the rejected claims obvious.

In view of the foregoing, this rejection may be withdrawn.

Rejection under U.S.C. § 103(a) – Bao in view of CLONTECHniques

Claims 11-13, 15-20 and 39-40 are rejected under U.S.C. § 103(a) as being unpatentable over Bao (USPN 6,251,601) in view of CLONTECHniques (July 2000). The Applicants respectfully traverse this rejection.

As discussed above, because Bao is deficient in that it fails to fairly suggest an array having a combination of contain cDNAs and synthetic oligonucleotides.

CLONTECHniques fails to meet Bao's deficiency, and, as such, the cited references, taken separately or together, fail to fairly suggest the claimed subject matter: an array containing cDNAs of at least 400 nucleotides in length *and* synthetic polynucleotide molecules that are no more than 100 nucleotides in length.

Accordingly, the cited references cannot render the claimed subject matter obvious and this rejection may be withdrawn.

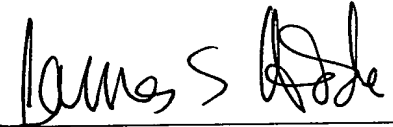
CONCLUSION

The Applicants respectfully submit that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone Gordon Stewart at (650) 485 2386.

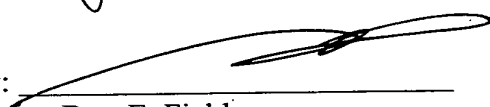
The Commissioner is hereby authorized to charge any fees under 37 C.F.R. §§ 1.16 and 1.17 which may be required by this paper, or to credit any overpayment, to Deposit Account No. 50-1078.

Respectfully submitted,

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